

CLAIMS:

1. A method of generating a depth map (122) comprising depth values representing distances to a viewer, for respective pixels of an image (100), the method comprising:
 - computing a cost value for a first one of the pixels (108) of the image by
 - 5 combining differences between values of pixels which are disposed on a path (112) from the first one of the pixels (108) to a second one of the pixels (110) which belongs to a predetermined subset of the pixels of the image; and
 - assigning a first one of the depth values corresponding to the first one of the pixels (108) on basis of the cost value.
- 10 2. A method as claimed in claim 1, whereby the predetermined subset comprises pixels which are located at a border of the image.
3. A method as claimed in claim 1, whereby a first one of the differences is equal
- 15 to a difference between respective values of neighboring pixels which are disposed on the path (112).
4. A method as claimed in claim 1, whereby a second one of the differences is equal to an absolute difference between respective values of neighboring pixels which are
- 20 disposed on the path (112).
5. A method as claimed in claim 1, whereby the values of pixels corresponds to one of luminance and color.
- 25 6. A method as claimed in claim 1, whereby the cost value for the first one of the pixels (108) is computed by accumulating the differences between the values of the pixels which are disposed on the path (112).

7. A method as claimed in claim 1, whereby the cost value for the first one of the pixels (108) is computed by accumulating the differences between the values of the pixels which are disposed on the path (112), the differences being larger than a predetermined threshold.
- 5 8. A method as claimed in claim 1, whereby the cost value for the first one of pixels is computed by accumulating products of differences between the values of the pixels which are disposed on the path (112) and respective weighting factors for the differences.
- 10 9. A method as claimed in claim 8, whereby a first one of the weighting factors which is related to a difference between a value of a particular pixel and a value of its neighboring pixel, is based on a distance between the particular pixel and the first one of the pixels (108).
- 15 10. A method as claimed in claim 8, whereby a second one of the weighting factors which is related to a difference between a value of a particular pixel and a value of its neighboring pixel, is based on the location of the neighboring pixel related to the particular pixel.
- 20 11. A method as claimed in claim 1, which further comprises:
- computing a second cost value for the first one of the pixels (108) of the image by combining differences between values of pixels which are disposed on a second path (202) from the first one of the pixels (108) to a third one of the pixels (204) which belongs to the predetermined subset of the pixels of the image;
- 25 - determining the minimum of the cost value and the second cost value;
- assigning the first one of the depth values corresponding to the first one of the pixels (108) on basis of the minimum.
12. A method as claimed in claim 1, which further comprises computing a second
30 cost value for a third one of the pixels on basis of the cost value for the first one of the pixels.
13. A method as claimed in claim 12, comprising computing the second cost value by combining the cost value of the first one of the pixels with a difference between further

values of further pixels which are disposed on a second path from the third one of the pixels to the first one of the pixels.

14. A method as claimed in claim 12 or 13, whereby cost values corresponding to
5 respective pixels of the image are successively computed on basis of further cost values being computed for further pixels, a first scan direction of successive computations of cost values for a first row of pixels of the image being opposite to a second scan direction of successive computations of cost values for a second row of pixels of the image.

10 15. A depth map generating unit (401) for generating a depth map (122) comprising depth values representing distances to a viewer, for respective pixels of an image (100), the generating unit comprising:
- computing means for computing a cost value for a first one of the pixels (108) of the image by combining differences between values of pixels which are disposed on a path
15 (112) from the first one of the pixels (108) to a second one of the pixels (110) which belongs to a predetermined subset of the pixels of the image; and
- assigning means for assigning a first one of the depth values corresponding to the first one of the pixels (108) on basis of the cost value.

20 16. An image processing apparatus (500) comprising:
- receiving means (502) for receiving a signal corresponding to an image (100);
and
- a depth map generating unit (401) for generating a depth map (122), as
claimed in claim 1.

25 17. A computer program product to be loaded by a computer arrangement, comprising instructions to generate a depth map (122) comprising depth values representing distances to a viewer, for respective pixels of an image (100), the computer arrangement comprising processing means and a memory, the computer program product, after being
30 loaded, providing said processing means with the capability to carry out:
- computing a cost value for a first one of the pixels (108) of the image by combining differences between values of pixels which are disposed on a path (112) from the first one of the pixels (108) to a second one of the pixels (110) which belongs to a predetermined subset of the pixels of the image; and

- assigning a first one of the depth values corresponding to the first one of the pixels (108) on basis of the cost value.